# BRONX COMMUNITY COLLEGE

## of The City University of New York

### DEPARTMENT OF MATHEMATICS and COMPUTER SCIENCE

**MATH 05 Test 1 Review**

1. Simplify the fraction (reduce to lowest tetms) $\frac{70}{150}$

Perform the indicated operation and choose one answer for each from the list of given answers.

2. $(-3)-(-14)$

**(a)** $-17$ **(b)** 11 **(c)**17 **(d)** 13

3. $\frac{1}{4}-\frac{5}{6}$

**(a)** $\frac{4}{2}$ **(b)** $\frac{7}{12}$ **(c)**$-\frac{7}{12}$ **(d)** $-\frac{13}{24}$

4. $\frac{4}{9}\times\frac{27}{36}$

**(a)** $\frac{1}{3}$ **(b)** $-\frac{1}{3}$ **(c)**$\frac{1}{27}$ **(d)** $\frac{107}{324}$

5. $8-2^2\div(-2)\cdot 3$

**(a)** 2 **(b)** $\frac{26}{3}$ **(c)**$-6$ **(d)** 14

6. Perform the indicated operation

(a) $\left(-\frac{3}{8}\right)\times\left(-\frac{4}{5}\right)$

(b) $(-9)(2)(-3)(1)$

(c) $11(-15+4)$

(d) $\frac{10}{27}\times\frac{9}{20}$

(e) $\frac{5}{18}+\frac{7}{12}$

(f) $-(-20)$

(g) $|-5|$

(h) The opposite of the absolute value of $-9$ is ____

(i) $25-3((-6)^2\div 12\times 2-12)$

(j) $\dfrac{|-4-6^2|+100}{70\times\sqrt{36}}$

(k) $\dfrac{1}{6}-\left(\dfrac{2}{3}-\dfrac{4}{9}\right)$

7. Evaluate expression

   (a) $\dfrac{5z-4x}{2y+z}$, if $x=-2$, $y=3$, and $z=5$.

   (b) $\dfrac{y(x-w)^2}{x^2-2xw+w^2}$, if $y=6$, $x=-3$, $w=2$.

8. Translate each English statement into an algebraic equation. Let $x$ represent the number in each case.

   (a) 5 times the product of $m$ and $n$.

   (b) 3 more that the product of 17 and $x$.

   (c) the product of 6 more that a number and 6 less than the same number.

   (d) the product of a number and 3 more than twice the same number.

   (e) the quotient when 5 less than a number is divided by 17.

9. Solve the following equations.

   **(a)** $12x-3=11x+5$ **(b)** $4(x-1)-2(x-5)=14$

   **(c)** $\dfrac{1}{3}x-2=\dfrac{7}{3}x+5$

10. Solve the literal equation $I=prt$ for the variable $r$ and choose the corresponding answer from the list of possible answers:

    **(a)** $r=I-pt$ **(b)** $r=\dfrac{I}{pt}$ **(c)** $r=t\dfrac{I}{p}$

11. Solve the following inequalities, graph the solution sets.

    **(a)** $7x+5\leq 4x-7$ **(b)** $5(x+3)>6(x-1)+2$

**Solve the following word problems. Show the algebraic solution.**

12. If 4 times a number, decreased by 7, is 45, find the number.

13. Melissa earns \$100 more per week than Julia. If their weekly salaries total \$720, how much do Melissa and Julia earn?

14. One side of a triangle is 5 in. longer than the shortest side. The third side is twice the length of the shortest side. If the triangle perimeter is 37 in., find the length of each side.

    **hint**: use $x$ for the shortest side, then express two other sides in terms of $x$. Perimeter of a triangle with sides $a$,$b$,$c$ is $P = a + b + c$.

    Don't forget to give the **full** answer.